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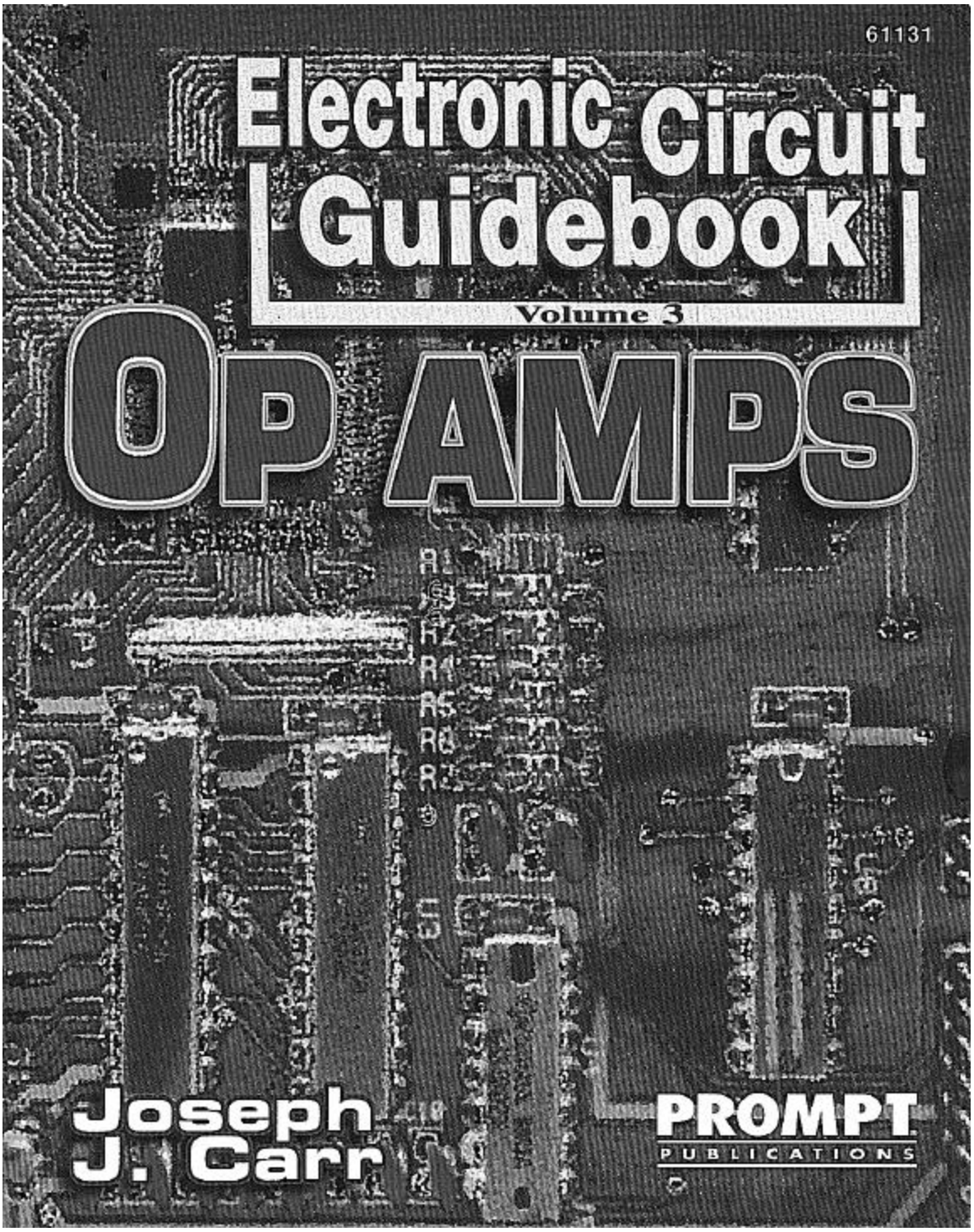

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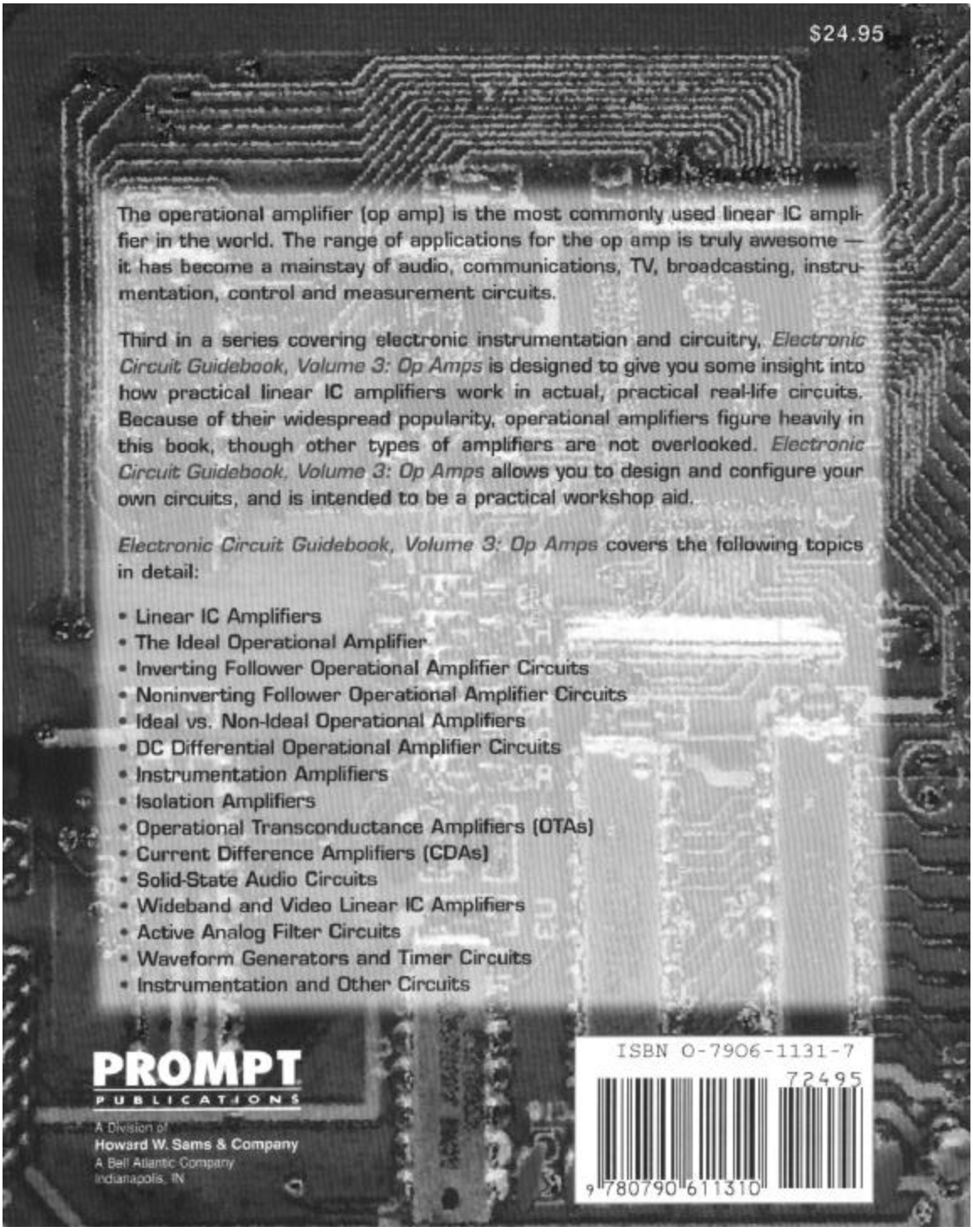
$24.95
The operational amplifier (op amp) is the most commonly used linear IC amplifier in the world. The range of applications for the op amp is truly awesome — it has become a mainstay of audio, communications, TV, broadcasting, instrumentation, control and measurement circuits.
Third in a series covering electronic instrumentation and circuitry, Electronic Circuit Guidebook, Volume 3: Op Amps is designed to give you some insight into how practical linear IC amplifiers work in actual, practical real-life circuits. Because of their widespread popularity, operational amplifiers figure heavily in this book, though other types of amplifiers are not overlooked. Electronic Circuit Guidebook, Volume 3: Op Amps allows you to design and configure your own circuits, and is intended to be a practical workshop aid.
Electronic Circuit Guidebook, Volume 3: Op Amps covers the following topics in detail:
• Linear IC Amplifiers
• The Ideal Operational Amplifier
• Inverting Follower Operational Amplifier Circuits
• Noninverting Follower Operational Amplifier Circuits
• Ideal vs. Non-Ideal Operational Amplifiers
• DC Differential Operational Amplifier Circuits
• Instrumentation Amplifiers
• Isolation Amplifiers
• Operational Transconductance Amplifiers (OTAs)
• Current Difference Amplifiers (CDAs)
• Solid-State Audio Circuits
• Wideband and Video Linear IC Amplifiers
• Active Analog Filter Circuits
• Waveform Generators and Timer Circuits
• Instrumentation and Other Circuits
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Contents

Preface **5**

Chapter 1
Linear IC Amplifiers **3**
Amplifier Fundamentals **5**
Operational Amplifiers **8**
Single Supply Operation **11**
Grades and Classes of Op Amp **14**
Current Difference ("Norton") Amplifiers **17**
Operational Transconductance Amplifiers (OTA) **18**
Protecting Linear IC Amplifiers **18**
Common IC Package Types **21**
Conclusion **24**

Chapter 2
The Ideal Operational Amplifer **25**
Properties of the Ideal Op Amp **26**
Conclusion **32**

Chapter 3
Inverting Follower Op Amp Circuits **35**
What's a "Virtual" Ground? 35
Developing the "Transfer Equation" For the Inverting Follower 36
Frequency Response Tailoring 39
AC-Coupled Inverting Followers 41
Multiple-Input Inverting Followers 42
Basic Design Procedure 43
Project Examples 45

Chapter 4
Noninverting Followers **49**
Application of Unity Gain Followers 50
Noninverting Followers With Gain 53
Advantages of Noninverting Followers 54
AC-Coupled Noninverting Amplifiers 55
Designer's Casebook Example 60
Transfer-Couple Noninverting Amplifier 63
Conclusion 64

Chapter 5
Ideal vs. Practical Operational Amplifiers **67**
DC Offset Problems 68
Corrections for DC Offset Problems 70
Frequency Compensation Problems 75

Chapter 6
DC Differential Operational Amplifier Circuits **83**
Common Mode Signals 83

Differential Signals 85
Differential Input Stage 86
Practical Circuits 87
Designer's Casebook Example 88
CMRR Adjustment 90
Universal Diff-Amp Project 92
Variable Gain Differential Amplifier 93
Some Special Diff-Amps 94
In the Next Chapter 95

Chapter 7
Instrumentation Amplifiers 83
Simple IA Circuit 84
Standard Instrumentation Amplifiers 85
Gain Equation For the IA Circuit 86
Gain Control For the IA 86
Common Mode Rejection (CMRR) Adjustment 88
AC Instrumentation Amplifiers 89
An ECG Amplifier 92
Some Commercial IC IA Examples 96
Next Chapter 99

Chapter 8
Isolation Amplifiers 101
Battery-Powered Designs 103
Carrier-Operated 103
Optically-Coupled Circuits 106
Current Loading Methods 108
Some Commercial Examples 109
Conclusion 113

Chapter 9
Operational Transconductance Amplifiers **129**
Voltage Amplifier From the OTA 133
Next Chapter 134

Chapter 10
Current Difference Amplifiers **135**
CDA Configuration 136
Inverting Follower Circuits 138
Designer's Casebook Example 141
Noninverting Amplifier Circuits 143
Super-Gain Amplifier 145
Differential Amplifiers 146
AC Mixer/Summer Circuits 148
Differential Output 600-Ohm Line Driver Amplifier 148
Using Bipolar DC Power Supplies 150

Chapter 11
Audio Integrated Circuits **151**
Audio Preamplifiers 151
DC Power Connections 152
Special Purpose IC Amplifiers 152
Operational Amplifier Preamps 154
Tone Control Circuits 159
Audio Mixer Circuits 162
600 Ohm Audio Circuits 165
Some Practical Preamplifier Circuits 167
Audio Compression Amplifier 169
IC Audio Power Amplifiers 170
The LM-386 Audio Preamplifier/Power Amplifier 170

Chapter 12
Wideband and Video Linear IC Amplifiers **175**
General Wideband Preamplifier 175
MAR-1 Wideband Preamplifier 177
Wideband Op Amps and OTAs 180
Voltage Controlled Wideband Amplifier 180
Wideband Amplifier Construction Hints 182

Chapter 13
Active Analog Filters **185**
Filter Frequency Response Characteristics 185
High-Pass and Low-Pass Filter Designs 190
For Further Reading 195

Chapter 14
Waveform Generators and Timer Circuits **197**
Relaxation Oscillators 198
Negative Resistance Devices 200
Feedback Oscillators 201
Sine Wave Oscillators 203
Wein Bridge Oscillators 203
Twin-Tee Oscillators 205
Bridged-Tee Oscillators 205
Phase Shift Oscillators 206
Non-Sinusoidal Waveform Generators 207
Square Wave Generators 208
Square Waves from Sine Waves 211
Sawtooth Generator Circuit 212
Digital Waveform Generators 214

Timer Circuits 217
Conclusion 219

Chapter 15
Instrumentation and Other Circuits 221
Keeping the Circuits Stable 221
Integrators and Differentiators 224
Electronic Integrator Circuits 227
A Practical Integrator 229
Electronic Differentiators 231
Precise Rectifiers 233
Peak Detector Circuits 235
Quadrature Detector 237
An Instrumentation Example 237
Mean Value Detector 240
Minimum Value Detector 241

Chapter 16
DC Power Supplies for Op Amp Circuits 243
DC Power Supplies 243
DC Power Distribution 246
Power Distribution Schemes for Circuit Boards 252
Isolating Circuits on the PCB 253

Index 255

Jameco Part number 146974

Preface

Electronics is a fascinating field, and has been popular ever since the very early days of radio (early 1900s). The typical electronic and radio hobbyist has always been something of an activist elite who experiments with practical circuits, designs personal projects, and builds everything from simple, "one-evening" jobs to complex systems that take months to complete. Personally, I've built projects from simple crystal set radios to large and complex instruments. I've even seen a large computer-driven X-Y plotter project advertised in the magazines just recently, indicating that hobby construction is still very popular. This book is designed for electronic hobbyists and others who enjoy learning about or building fundamental electronic circuits.

At one time all electronic projects were composed of discrete components such as resistors, capacitors, transistors and vacuum tubes. In the early 1960s, a great change -- what some today would call a paradigm shift -- in electronic construction occurred with the advent of integrated circuitry. The first commercial ICs (integrated circuits), devices such as the µA-709 operational amplifier and the µA-703 FM IF amplifier that elicited excitement in their day, are now considered not only over the hill, but out of sight behind us. These devices are small-scale integration and extremely primitive compared with products sold today. However, in 1967, the early devices were the latest and greatest -- with prices commensurate with that status.

Since those early days, we have progressed through several orders of integration, where we now commonly see medium-scale integration (MSI), largescale integration (LSI) and very large-scale integration (VLSI) devices sold through nonindustrial distributors and hobbyist-oriented parts stores such as Radio Shack. Now on the market are monolithic microwave integrated circuit (MMIC) devices, such as the Mini-Circuits Laboratories MAR-xx series.

The purpose of this book is to give you some insight into how practical linear ICs work in actual, practical real-life circuits. Because of their widespread popularity, operational amplifiers (op amps) figure heavily in the presentation, although other types of amplifiers are not overlooked. The idea is to allow you to design and configure your own circuits, and the material is presented with that goal in mind.

Whatever else this book is, it is intended to be a practical workshop aid. Although most authors probably like to see their works given a place of honor in their reader's library, on the bookshelf in the living room for instance, it is my desire that this book be kept on your workbench, get folded over from long and hard use, and (of course) amply solder splashed.